



**DEPARTMENT OF THE ARMY  
HEADQUARTERS  
U.S. ARMY MANEUVER SUPPORT CENTER AND FORT LEONARD WOOD  
FORT LEONARD WOOD, MISSOURI 65473-5000**

FLW Regulation  
No 115-1

19 June 2002

Climatic, Hydrological, and Topographic Services  
WEATHER DATA

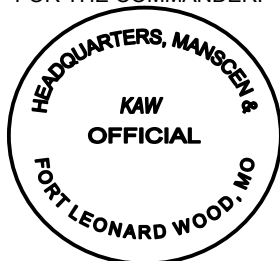
**Summary.** This regulation reflects the changes in weather support provided to Fort Leonard Wood (FLW).

**Applicability.** This regulation applies to all units assigned or attached to and facilities within the FLW area.

**Supplementation.** Supplementation of this regulation is prohibited without prior approval by Headquarters, United States Army Maneuver Support Center and Fort Leonard Wood (MANSCEN & FLW).

**Suggested improvements.** The proponent agency of this regulation is the Directorate of Plans, Training, and Mobilization (DPTM). Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) to Cdr, MANSCEN, ATTN: ATZT-PTM-A, 203 Illinois Ave., Suite 001, Fort Leonard Wood, MO 65473-8936.

FOR THE COMMANDER:



WILLIAM A. VAN HORN  
Colonel, GS  
Chief of Staff

JAMES M. BOATMAN  
Acting Director, Information  
Management

**DISTRIBUTION:**

A  
Plus 100 – ATZT-IM-ST  
3 – ATZT-IM-SP

Contents	Page
Paragraph 1. Purpose .....	2
Paragraph 2. References .....	2
Paragraph 3. Explanation of Acronyms, Abbreviations, and Terms .....	2
Paragraph 4. Weather Support Concept .....	2
Paragraph 5. Operating Hours .....	2
Paragraph 6. Weather Warnings .....	2
Paragraph 7. Observed Weather Advisory Criteria .....	2
Paragraph 8. Procedures for Requesting Weather Warning Service .....	2
Paragraph 9. General Dissemination Procedures .....	3
Paragraph 10. Dissemination Responsibilities .....	3
Paragraph 11. Weather Warning Plans .....	3
Paragraph 12. Weather Damage Reports .....	4
Paragraph 13. Aviation Weather Support .....	4
Paragraph 14. Support to OL-B, 3WS .....	4
Paragraph 15. Limiting Factors .....	5
Appendix A. Special (SPECI) Observation Criteria .....	5
Appendix B. Local Observation Criteria .....	5
Glossary .....	6

\*This regulation supersedes FLW Reg 115-1, 13 September 2000.

1. Purpose. This regulation establishes policies, procedures, and responsibilities for requesting, obtaining, and disseminating weather data for Headquarters, MANSCEN.

2. References.

a. Required references.

(1) AR 95-1 (Army Aviation Flight Regulation). Cited in paragraph 13a(2)(b).

(2) AR 115-10/AFJI 15-157 (Weather Support For The US Army). Cited in paragraph 14b.

(3) DOD FLIP. Cited in paragraph 13a(2)(b).

(4) AFM 15-111 (Surface Aviation Observations). Cited in paragraph 13a(2)(b).

3. Explanation of Acronyms, Abbreviations, and Terms.

a. Acronyms and abbreviations. Acronyms and abbreviation used in this regulation are explained in the glossary.

b. Terms.

**Lead Time.** The elapsed time between the issuance of a weather warning and the first occurrence of the phenomena. The desired lead times in paragraph 6 are established by supported organizations based on the time needed to react to the warning, tempered by the current "state of the art" of weather forecasting.

**Severe Weather Warning.** A specific weather warning issued for tornadoes or severe thunderstorms which contain hail 3/4 inch or larger in diameter and/or winds gusting to 50 knots or more.

**Weather Advisory.** A special notice that certain weather conditions which may be hazardous to personnel or equipment is occurring at FLW. It is issued to minimize injury and/or damage.

**Weather Observations.** Reports of existing weather conditions at a specific time and place, such as Waynesville Regional Airport at Forney Field (WRAFF). Observations include sky condition, weather (rain, thunderstorms, hail, snow, etc.), visibility and obstructions to visibility (dust, haze, fog, etc.), temperature, dew point, wind direction and speed, wind chill factor, altimeter setting, pressure altitude (PA), density altitude (DA) (upon request), and runway condition reading/runway surface condition (RCR/RSC).

**Weather Warning.** A weather warning issued by the Air Force Weather Agency (AFWA) Severe Weather section, for a specific location [Fort Leonard Wood], valid for a specified time period. Criteria and area of the warnings are determined by the stated needs of the supported organizations. A weather warning implies the occurrence and/or forecast of phenomena of such intensity as to prompt immediate protective action by the supported organizations.

4. Weather Support Concept. Weather support to FLW is provided by Operating Location-B (OL-B), 3rd Weather Squadron (3WS), United States Air Force (USAF), located at WRAFF and the AFWA, located at Offutt Air Force Base (AFB), Omaha, NE. A mix of locally produced surface weather observations and centrally produced weather warnings are used to satisfy supported unit's requirements. Weather forecasts are disseminated by OL-B, for planning purposes only.

5. Operating Hours.

a. OL-B, 3WS is a limited-duty weather observing unit, and is operational Monday through Friday 0600L-2100L, Saturday 0700L-1500L, and Sunday 1100L-1900L.

b. AFWA Severe Weather section is operational 24 hours per day, year-round, and maintains a continuous weather watch for FLW, issuing weather warnings as necessary.

6. Weather Warnings.

a. The AFWA issues weather warnings for FLW (Missouri 7) for the following criteria:

CRITERIA	DESIRED LEAD TIME
Tornadoes	30 Minutes
Severe thunderstorms, with hail ¾ inch or larger and/or winds 50 knots or greater.	120 Minutes
Moderate thunderstorms with hail 1/2 inch or larger but less than 3/4 inch, winds 35 knots or greater but less than 50 knots.	90 Minutes
Thunderstorms, with hail less than 1/2 inch and/or winds less than 35 knots.	90 Minutes
Surface winds 50 knots or greater not associated with thunderstorms.	120 Minutes
Surface winds 35 knots or greater, but less than 50 knots, not associated with thunderstorms.	90 Minutes
Freezing precipitation.	90 Minutes
Heavy rain, 2 inches or more within 12 hours.	90 Minutes
Heavy snow, 2 inches or more within 12 hours.	90 Minutes

b. Weather Warnings are currently disseminated telephonically, directly from AFWA to the DPTM, Installation Operations Center (IOC) during duty hours and to the Post Staff Duty Officer (SDO) during non-duty hours. Any changes to the IOC/SDO telephone numbers must be promptly reported to the OL-B, 596-0702. FLW internal dissemination procedures are detailed in paragraph 9.

c. Weather Warnings are valid for the entire FLW military reservation.

d. OL-B, 3WS will issue an observed weather warning for the occurrence of lightning within 5 and 15 nautical miles of WRAFF.

e. Emergency alert and notification systems are installed in the installation SDO and the FLWIOC offices, which provides instantaneous 24 hours a day coverage of severe weather posing an imminent danger and threat. The FLWIOC during duty hours, and the SDO after duty hours will initiate sirens, cable tv, and the automated notification system called The Communicator, to facilitate the protection of personnel and assets located on the installation.

7. Observed Weather Advisory Criteria. During normal observing duty hours, the USAF weather station will issue advisories whenever the following occurs: Surface winds 35 knots or greater.

8. Procedures for Requesting Weather Warning Service.

a. FLW units may submit request for weather warning advisory service to Headquarters, MANSCEN, ATTN: ATZT-PTM-PP. However, consideration must be given that this headquarters has no weather forecasting facility.

b. Initial requests for weather warning service will include the following:

(1) Name of the unit or site for which support is requested, mailing address and telephone number.

(2) The weather conditions for which warnings are required using the criteria in paragraphs 6 and 7 above.

(3) Complete justification for the service.

(4) The daily time period during which the service is requested.

c. Requests for changes to existing weather warning service will be accomplished in the same manner as initial requests.

d. Activities requesting weather warning service of Headquarters, MANSCEN, will adhere to the criteria as stated in paragraphs 6 and 7 above. Requests for service based on weather criteria other than those listed will be considered; however, detailed justification must accompany the request. Such justification will include an estimate of the effects that such weather will have on operational or structural capabilities of specified resources, as obtained from technical manuals or technical bulletins. This procedure is necessary in order to justify specialized weather warning support from AFWA.

#### 9. General Dissemination Procedures.

##### a. Weather Warnings.

(1) Observed weather warnings for the occurrence of lightning are disseminated by OL-B, via local weather dissemination system, to IOC during duty hours or the SDO during non-duty hours, when the weather station is open. AFWA disseminates all other warnings telephonically to the IOC/SDO. Warnings will then be relayed to major subordinate commands and designated offices, but not to subordinate elements thereof, through the Command Incident Notification System. Further dissemination is the responsibility and function of the office receiving the warning. The office receiving weather warning service is responsible for providing notice of appropriate telephone number changes to the transmitting office.

(2) The Net Control Station (NCS) is the IOC, DPTM, 0730-1630 hours weekdays, SDO other times.

(3) Relaters and recipients of weather warnings will not alter the text of the weather warning message.

b. Daily forecasts and current weather conditions. Two automatic telephonic answering device (ATAD) numbers will be utilized, one for dissemination of daily forecast (596-0167) and the other for current weather conditions, to include wind chill factor when the ambient air temperature is less than 40 degrees Fahrenheit (596-2059), to FLW and vicinity. The recorded forecast will be revised at least two times daily (except once on weekends and holidays). The weather forecast ATAD (596-0167) will operate 24 hours a day, 7 days per week.

#### 10. Dissemination Responsibilities.

##### a. DPTM is responsible for -

(1) Staff supervision of the activities of the USAF Weather Station pertaining to weather support for this command.

(2) Initiating, coordinating, and consolidating the command's requirements for weather information and service.

(3) Disseminating weather advisories and warnings.

(4) Recording weather advisories on the Educational Television (ETV) Command Clock within 5 minutes of notification.

(5) Transmitting all notice to airmen (NOTAMS) for WRAFF on the military circuit.

b. Training Support Battalion, Range Control, is responsible for disseminating wet bulb global temperatures (WBGT) readings.

##### c. The USAF Weather Station is responsible for -

(1) Providing monthly climatology summary to FLW units.

(2) Forwarding other command climatological and meteorological data requirements to its parent unit.

(3) Providing surface weather observations during weather station operating hours. An alternate observing site will not be required during periods of temporary weather station evacuation.

(4) Disseminating weather advisories and observed lightning warnings to IOC/SDO (during observing duty hours only).

(5) Disseminating a 7-day climatology forecast, each Wednesday, to 5th Engineer Battalion.

(6) Recording information as noted in paragraph 9b, on ATAD.

(7) Disseminating all significant pilot reports (PIREPs) via local dissemination system.

(8) Providing/interpreting weather data, obtained from Air Force Meteorological Information System/Air Force Weather Information Network (AMIS/AFWIN), to pilots for use in flight planning.

d. The Directorate of Public Works (DPW) is responsible for issuing flood stage advisories whenever United States Weather Bureau upstream gauging stations indicate anticipated flood stage conditions on the Big Piney River.

e. The DPW Natural Resources Officer, or Fire and Emergency Services personnel, are responsible for relaying fire index computations to the weather station to be included into current weather conditions recording.

f. The SDO is responsible for disseminating warnings and advisories during the periods the IOC is closed.

##### g. Commanders of major units are responsible for -

(1) The dissemination of weather warnings or flood stage conditions to subordinate units or activities.

(2) Providing the post SDO with telephone numbers of unit or activity officials to be called during non-duty hours.

#### 11. Weather Warning Plans.

a. Assigned and attached units receiving weather warning service will prepare and publish a weather warning plan which will include as a minimum the following information:

(1) Local office authorized to receive weather warnings.

(2) Persons and activities to be notified upon receipt of weather warnings.

(3) Protective measures to be taken when weather warnings are received.

(4) Criteria for which warnings are received.

(5) Provisions for recording the receipt and dissemination of warnings.

(6) Source(s) of weather warnings.

(7) Procedures for preparing and submitting damage reports in accordance with paragraph 12 below.

b. Weather warning plans and requirements will be reviewed annually and revised as required.

12. Weather Damage Reports. Damage to buildings/facilities or injuries to personnel, known or suspected to have been caused as a result of weather phenomenon, will be reported to OL-B, 3WS (596-0702) within 24 hours.

13. Aviation Weather Support.

a. Surface Weather Observations.

(1) A Basic Weather Watch (BWW) is conducted by OL-B, 3WS, to detect and report significant changes in specified weather elements. In addition to taking and disseminating required observations, the BWW involves the minimum requirements to re-check weather conditions at intervals not to exceed 20 minutes since the last observation, to determine the need for a Local or SPECI observation, when any of the following conditions are observed to be occurring or are forecast to occur within 1 hour:

- (a) Ceiling 1,500 feet or less.
- (b) Visibility 3 miles or less.
- (c) Precipitation (any form).
- (d) Fog or mist.

(2) OL-B, 3WS, will take and locally disseminate surface weather observations to include RCR/RSC, via local weather dissemination system to WRAFF Airfield Operations, Control Tower, and the contract commuter airline.

(a) Aviation Routine Weather Report (METAR) observations are complete observations taken hourly.

(b) SPECI, as listed in appendix A, are taken to report significant changes in weather elements. These observations will be taken in accordance with criteria, specified in AFM 15-111. SPECIs may also be taken for appropriate ceiling/visibility criteria specified in the DOD FLIP and AR 95-1.

(c) Local observations, as listed in appendix B, are primarily taken to report changes in conditions significant to local airfield or other post operations, but which do not meet special criteria.

(3) Local dissemination formats for weather observations are -

(a) METAR - KTBN METAR 1955 20010 7 SCT040 27/11 ALSTG 30.10 PA +990 56/GPW

(b) SPECI - KTBN SPECI 2013 23013 5 -SHRA BKN040 26/13 ALSTG 30.11 PA +980 WR// 14/GPW

(c) LOCAL - KTBN LOCAL 2125 ALSTG 30.13 PA +970 25/GPW

(4) Cooperative Weather Watch. As OL-B, 3WS, because of other weather operations duties, cannot monitor the weather continuously, WRAFF Control Tower personnel will maintain a cooperative weather watch, informing the weather observer (duties permitting) whenever -

(a) A ceiling forms, dissipates, raises or lowers.

(b) Visibility increases or lowers through Instrumental Flight Rules (IFR)/Visual Flight Rules (VFR) criteria.

(c) A thunderstorm begins or ends.

(d) A tornado or funnel cloud is observed.

(e) Precipitation starts or ends.

(f) Lightning is first observed.

(g) An obstruction to vision appears (fog, smoke, etc.).

(h) A significant pilot report (PIREP) is received (i.e., PIREP of turbulence, icing, wind shear, clouds, visibility, etc.).

b. Flight Weather Briefings.

(1) Full time remote aviation weather briefing service is available from any Air Force weather station having forecasters on duty.

(2) During duty hours, OL-B, 3WS, will provide transient pilots with the current weather conditions at WRAFF. OL-B will assist pilots, through use of the AMIS/AFWIN, in obtaining updated observed/forecast weather conditions for other locations as required.

c. Training of Army Air Traffic Controllers. At the request of the ATC Branch, OL-B will conduct weather observation training and certification for Army Air Traffic Controllers to take limited weather observations. Controllers will be certified prior to being rated to pass meteorological information to the weather station.

d. Maintenance of Weather Records.

(1) In the event of an aircraft accident or incident, a file of weather data will be prepared and maintained for a period of not less than 6 months.

(2) Routine weather records (observations) will be maintained IAW applicable Air Force directives.

(3) Weather records will be made available to aircraft accident investigation officers/boards upon request.

14. Support to OL-B, 3WS.

a. WRAFF Control Tower/Airfield Operations will -

(1) Notify OL-B whenever they open or close the ATC function.

(2) Maintain a cooperative weather watch with OL-B, duty priorities permitting.

(3) Relay tower visibility whenever the reported prevailing visibility is 4 miles or less and differs from the observer's reported visibility by one or more reportable values.

(4) When the prevailing visibility is 3 miles or less, notify OL-B whenever the high intensity runway lights (HIRLS) are turned on or off, or the setting is changed.

(5) Notify OL-B whenever the active runway changes.

(6) Notify OL-B of all in-flight emergencies, incidents, or accidents.

(7) Pass significant PIREPS to OL-B for further dissemination.

b. The MANSCEN will provide administrative and logistics support in accordance with AR 115-10/AFI 15-157.

#### 15. Limiting Factors.

a. Personnel assigned to OL-B, 3WS, are weather observers and have no ability or authorization to make weather forecasts or provide Toxic Corridor information. Their mission is to provide weather observing services to WRAFF and to relay forecasts produced by AFGWC or other AFWA units.

b. AFWA Severe Weather section is somewhat limited in its ability to issue accurate weather warnings for FLW when personnel of OL-B are not on duty to provide timely observations of the current weather.

c. Surface observations at WRAFF are limited by a tree line from East to South to West, fencing from West to East, and airfield lighting.

d. OL-B weather personnel will accomplish duties IAW the following priority list:

- (1) Complete Emergency War Orders tasking.
- (2) Respond to aircraft/ground emergencies.
- (3) Take and disseminate surface observations locally.
- (4) Disseminate warnings and advisories locally.
- (5) Disseminate PIREPS locally.
- (6) Transmit surface observations and PIREPS longline.
- (7) Other duties as required.

e. Non-DOD agencies/individuals must request, and obtain approval for, the release of weather information through the appropriate USA/USAF channels.

#### Appendix A SPECIAL (SPECI) OBSERVATION CRITERIA

Take, disseminate, and record SPECI Observations to report significant changes in weather elements when criteria, as indicated below, are observed.

A-1. CEILING. The ceiling is observed to form below, decrease to less than or if below, increase to equal or exceed: 3000, 1500, 1000, 700, 600, 500, or 400 feet.

A-2. SKY CONDITION. A layer of clouds or obscuring phenomena aloft is observed below 600 feet and no layer aloft was reported below 600 feet in the previous METAR or SPECI observation.

A-3. VISIBILITY. Prevailing visibility is observed to decrease to less than or, if below, increases to equal or exceed: 3, 2, 13/4, 11/2, 11/4, 1, or 1/2 miles.

A-4. TORNADO, FUNNEL CLOUD, OR WATERSPOUT: Is observed, disappears from sight (single element SPECI authorized).

A-5. THUNDERSTORM: Begins or ends.

A-6. PRECIPITATION:

- a. Hail begins or ends.
- b. Freezing precipitation begins, ends, or changes in intensity.
- c. Ice pellets begin, end, or change in intensity.

d. Any other type of precipitation begins or ends.

A-7. SQUALL: Wind suddenly increases at least 16 kts and is sustained at 22 kts or more for at least one minute.

A-8. WIND SHIFT: The wind direction changes by 45 degrees or more in less than 15 minutes with sustained winds (or gust) of 10 kts or more throughout the wind shift.

A-9. RUNWAY CONDITIONS: Upon receipt, transmit runway condition readings as a SPECI or append to a METAR or SPECI being taken at time notified.

A-10. TOWER VISIBILITY: Upon receipt of a reportable tower visibility value, when either tower or weather's visibility is less than 4 miles, and they differ by a reportable SPECI criteria value, transmit a SPECI with the tower visibility as a remark.

A-11. REAL WORLD NUCLEAR ACCIDENT: Append the remark AEROB as the last remark on longline disseminated observations.

A-12. VOLCANIC ASH: When first observed.

A-13. MISCELLANEOUS: Any other meteorological situation, which, in the opinion of the observer, is critical to the safety of aircraft operation.

A-14. RESUMPTION OF OBSERVING SERVICES: Take, disseminate, and record a SPECI within 15 minutes after returning to duty following a break in hourly coverage if a METAR was not filed as scheduled during that 15 minute period.

#### Appendix B LOCAL OBSERVATION CRITERIA

Take, disseminate, and (when applicable) record Local observations as indicated below:

B-1. Immediately following notification or sighting of an aircraft mishap or in-flight emergency at or near the station unless there has been an intervening METAR or SPECI.

B-2. When there is a change in the runway in use. You must allow time for the RVR sensor to update after you switch it to the other runway.

B-3. For a change in altimeter setting of .01 inch or more (may be a single element Local).

a. Upon request.

b. At a frequency not to exceed 35 minutes since the last determination.

B-4. Whenever the RVR criteria listed below are observed to occur:

a. Instantaneous RVR for the active runway is observed to decrease to less than, or if below, increases to equal or exceed: 6000, 5000, or 4000 feet (may be a single element local).

b. Visibility conditions for reporting RVR are first observed and when the conditions no longer exist.

c. RVR is first determined as unavailable (RVRNO) for the runway in use, and when it is first determined that the "NO" report is no longer applicable, provided conditions for reporting RVR exist.

B-5. Whenever tower visibility changes by a reportable value without meeting SPECI criteria (may be a single element local).

B-6. When personnel suspect an out-of-tolerance or erroneous wind recording from the AN/FMQ-13 -

a. Immediately take and disseminate a single element local wind observation using an alternate method of determination.

b. If no SPECI criteria are met during the period of suspect winds, continue to take single element local wind observations at 15, 30, and 45 minutes past the hour for the tower to use until the AN/FMQ-13 is deemed reliable again.

B-7. For any other meteorological situation which, in the opinion of the observer, is significant to local operations.

## GLOSSARY

AFB  
Air Force Base

AFJI  
Air Force Joint Instruction

AFM  
Air Force manual

AFWA  
Air Force Weather Agency

AFWIN  
Air Force Weather Information Network

AMIS  
Air Force meteorological Information System

AR  
Army regulation

ATAD  
automatic telephone answering device

ATC  
Air Traffic Control

BWW  
Basic Weather Watch

DA  
density altitude

DOD  
Department of Defense

DPTM  
Directorate of Plans, Training, and Mobilization

DPW  
Directorate of Public Works

ETV  
educational television

FLW  
Fort Leonard Wood

FLWIOC  
Fort Leonard Wood Installation Operations Center

HIRLS  
high intensity runway lighting system

IAW  
In accordance with

IFR  
Instrumental Flight Rules

IOC  
Installation Operations Center

LOCAL  
local observation

MANSCEN & FLW  
United States Army Maneuver Support Center and Fort Leonard Wood (same as MANSCEN)

METAR  
Aviation Routine Weather Report

NCS  
Net Control System

NOTAMS  
Notices to Airmen

OL-B  
Operating Location-B

PA  
pressure altitude

PIREP  
pilot report

RCR  
runway condition reading

RSC  
runway surface condition

RVR  
runway visual range

SDO  
Staff Duty Officer

SPECI  
special observation

USA  
United States Army

USAF  
United States Air Force

VFR  
Visual Flight Rules

WBGT  
wet bulb global temperature

WRAFF  
Waynesville Regional Airport at Forney Field

WS  
weather squadron